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TITLE: SYNTHESIS APPARATUS FOR
WAVEFORM SIGNAL AND TIME BASE
                       COMPRESSION AND EXPANSION
APPARATUS

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ABSTRACT:

    PROBLEM TO BE SOLVED: To permit the smooth
expansion and compression of

waveform signals and to permit processing in real
time by forming at least,
either of frequency information and amplitude
information to the waveform
signals corresponding to the respective infrequency
bands divided to plural
infrequency band groups.

SOLUTION: A multirate analysis section comprises
a multirate preprocessing
section for dividing the waveform signals to main
bands and sub-bands, a sub-
band analysis section for analyzing the amplitude
values and instantaneous
frequencies of the respective sub-bands and a
memory section for storing the
amplitude values and instantaneous frequencies
analyzed by the sub-band
analysis sections. The processing in the
respective sub-band analysis sections
is divided to the four sub-bands, by which the
amplitude values and
instantaneous frequencies are analyzed. The data
amplitude value and
instantaneous frequency of the respective analyzed
sub-bands is limited in the
bands and, therefore, the sampling frequencies are
considerably thinned and the
information quantity may be compressed and may be
stored into the memory
section. As a result, the reproduced sounds do not
have flat sounds even of
the waveform signals are expanded and compressed.